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ABSTRACT

Preschool attendance and type of experience were examined for long-term effects on 226 third grade advantaged boys and girls. Information on preschool attendance was obtained from each subject's parents. Each subject was assessed on social competence, cognitive ability, reading achievement, and math achievement. Results indicated that advantaged children who attended preschool and advantaged children who did not attend preschool were not different in social and cognitive competence by third grade. Findings also indicated that children who attended half-day preschool, while not differing, had higher social competence and cognitive ability scores than children who attended day care. Underscored by this research is the critical question of how specific types of preschool experiences influence development in later years. A five-page bibliography concludes the report. (Author/RH)

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Preschool Attendance and Type of Experience in
Advantaged Children: Long-Term Effects by Third Grade

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Abstract

Preschool attendance and type of experience were examined for long-term effects in 226 third grade advantaged boys and girls. Information on preschool attendance was obtained from each subject's parents. Each subject was assessed on social competence, cognitive ability, reading achievement, and math achievement. Results indicated that advantaged children who attended preschool and advantaged children who did not attend preschool were not different in social and cognitive competence by third grade. Findings also indicated that children who attended half-day preschool, while not differing, had higher social competence and cognitive ability scores than children who attended day care. Underscored by this research is the critical question of how specific types of preschool experiences influence development in later years.

Preschool Attendance and Type of Experience in
Advantaged Children: Long-Term Effects by Third Grade

The purpose of the present study was to examine long-term effects of preschool experiences on the social and cognitive competence of advantaged children. Specifically, two issues were investigated. The first issue was whether advantaged children who attended preschool differed from advantaged children who did not attend preschool on measures of social and cognitive competence by third grade. The second issue was the influence of type of preschool experience--full-day versus half-day--on advantaged children's social and cognitive development.

The positive long-term effects of preschool experiences on school achievement and life successes of disadvantaged children have been well-documented (Belsky, 1984; Belsky & Steinberg, 1978; Berrueta-Clement, Schweinhart, Barnett, Epstein, & Weikart, 1984; Etaugh, 1980; Goodman & Andrews, 1981; Lazar, Darlington, Murray, Royce, & Snipper, 1982; Miller & Bizzell, 1983, 1984; Rutter, 1981; Zigler,

Abelson, Trickett, & Seitz, 1982). Long-term effects of preschool on advantaged children, however, have been the subject of three studies to date (Larsen, Hite, & Hart, 1983; Pierson, Walker, & Tivnan, 1984). These studies suggest that preschool does benefit advantaged children in social as well as cognitive development.

In their most recent report on the Brookline Early Education Program (BEEP), Pierson, Walker, and Tivnan (1984) indicated a positive relationship between the preschool program and later success. Specifically, in a follow-up study, they found that by second grade, BEEP children engaged in the kinds of skills and behaviors necessary for school success more frequently than controls. In the first wave of a longitudinal study, Larsen, Hite, and Hart (1983) reported social competence, but not IQ, differences favoring preschool

attendance by the end of preschool. By the end of kindergarten, however, any differences between preschool participants and controls had disappeared. In the second wave, however, Larsen, Draper, and Hite (1984) reported only IQ differences by the end of preschool favoring preschool attendance.

Any consideration of the effects of preschool on development suggests a move beyond preschool attendance itself to experiences of children in different types of preschool settings (Belsky, Steinberg, & Walker, 1982; Belsky, 1984). Including both advantaged and disadvantaged children, some researchers have examined the relationship between varying dimensions of type of preschool experience with preschool settings and behavior. Specifically, researchers have investigated the effects of adult/child ratio (Field, 1980; Ruopp & Travers, 1982; Smith and Spence, 1980; Vandell & Powers, 1983), caregiver training (Ruopp & Travers, 1982; Smith & Spence, 1980; Vandell & Powers, 1983), and classroom environment (Field, 1980; Vandell & Powers, 1983) on social and cognitive development. In

summary, the above research suggest that adult/child ratio, caregiver training, and classroom environment (i.e., partitioned play areas and availability of toys) to be important determinants of variations in children's social and cognitive development. Specifically, preschool settings with small group sizes, caregivers trained in child-related fields, and play areas partitioned and supplied with various toys, develop readiness for kindergarten and first grade and facilitate social interactions with peers and adults more than in preschool settings in which these features are not present.

One type of preschool setting comparison which has been given minimum attention is full-day versus half-day preschool attendance. In a different focus from specific internal dimensions, Vlietstra (1981) examined the effects of full- versus half-day preschool experiences on middle class children. Her findings indicated that full-day children were less able than half-day children to get along with peers, engage in nonaggressive behavior, and tolerate frustration.

All of the above studies examined type of experience for immediate effects. In addition, Vlietstra (1981) did not consider cognitive competence. The present study focused on long-term effects of type of experience (i.e., full-day versus half-day) on both social and cognitive competence in educationally and culturally advantaged children.

Method

Subjects

Subjects consisted of 226 third grade boys and girls from three public schools located within a large southeastern metropolitan area. All three schools are part of the same school system. There were 122 girls and 104 boys. All the third graders within each of the three schools were invited to participate in the study. The 226 subjects, however, were comprised of those children whose parents granted permission for them to be involved in the study. All subjects were caucasian with the exception of four black and three Asian-Indian children. According to school demographics supplied by the school system's central office, the three schools

were comparable in level of parent education and family income. Based on the Hollingshead two-factor index of SES (Hollingshead & Redlich, 1958) parent education and income allowed the schools to be classified as middle and upper-middle class.

Procedure

For each subject, data were collected on preschool attendance, social competence, and cognitive ability.

Preschool Attendance. Various types of demographic and preschool attendance information were supplied by the subjects' parents by means of the Preschool Information Questionnaire. The Preschool Information Questionnaire is a survey instrument developed by the investigator to obtain demographic information on subjects.¹ Three sets of information were of interest to this study. First, parents indicated whether or not the subject attended preschool prior to entering kindergarten. Second, if the subject attended preschool, parents indicated the type of

¹Copies of the Preschool Information Questionnaire may be obtained directly from the author.

preschool experience the subject had. In other words, it was noted whether the subject attended full-day day care, half-day preschool for five days per week, or half-day preschool for three days per week. Third, parents indicated whether subjects attended either church-run centers, franchise centers, privately-owned centers, private school centers, or university-based centers. The distribution of preschool attendance data is presented in Table 1.

Insert Table 1 about here.

Social Competence. The Behavior Evaluation Scale (BES) (McCarney, Leigh, & Cornbleet, 1983) was used to measure social competence. A teacher-rating scale, the BES was developed to assess "general behavior with any regular class or special education student who exhibits behavior problems" (McCarney, Leigh, & Cornbleet, 1983, p. 2). Thus, in the present study, social competence was defined as absence of problem behavior. The BES is a 52-item, seven-point, variable-choice scale for use

with children from kindergarten to twelfth grade. The 52 items represent specific behaviors which can be observed and measured. The items are grouped into five subscales: Learning Problems, Interpersonal Difficulties, Inappropriate Behavior, Unhappiness/Depression, and Physical Discomfort or Fears associated with personal or school problems. Split-half reliabilities for these subscales were .93, .86, .91, .76, and .77 respectively. McCarney, Leigh, and Cornbleet (1983) reported a total-scale split-half reliability of .96 and test-retest reliability of .97. The scale has a mean of 100 and a standard deviation of 15.

Cognitive Competence. Cognitive competence was defined as cognitive ability, reading achievement, and math achievement. The Otis-Lennon School Ability test (OL-SAT) and the Metropolitan Achievement Test (MAT) were used to measure cognitive ability and reading and math achievement respectively. Both instruments had been administered to all subjects in the fall of the school year. It is a practice of the school system

involved in the study to administer both instruments to all third grade students system-wide each year. Thus, the cognitive ability score and reading and math percentile ranks were obtained from each subject's school records.

Results

Preliminary multivariate analyses of variance yielded no significant school or sex main effect differences in social and cognitive competence. For both of the following analyses, the dependent variables were social competence, cognitive ability (IQ), MAT reading subtest percentile rank, and MAT math subtest percentile rank.

To ascertain whether third graders who attended preschool and third graders who did not attend preschool differed on social and cognitive competence, a one-way multivariate analysis of variance was computed. The MANOVA was not significant, indicating that advantaged children who attended preschool and disadvantaged children who did not attend preschool were

not different in social and cognitive competence by third grade.

In order to determine whether third graders who attended day care, five-days-per-week-half-day preschool, and three-days-per-week-half day preschool differed on social and cognitive competence, a one-way multivariate analysis of variance was computed. There was a significant difference among the groups, $F(8, 362) = 2.000, p .05$. Since the MANOVA was significant, subsequent ANOVA's were examined to ascertain the specific variables on which the differences occurred. These subsequent ANOVA's indicated that differences occurred for social competence, $F(2, 183) = 3.371, p .03$ and cognitive ability (IQ), $F(2, 183) = 3.370, p .03$. There were no significant differences among the three groups in reading and math achievement. Table 2 presents the means and standard deviations for social competence, IQ, reading percentile rank, and math percentile rank for each group.

Insert Table 2 about here.

Post hoc analyses using Scheffe's Multiple Comparison Test of Group Means were computed to determine which of the three groups differed in social competence and cognitive ability. Results indicated that subjects who attended five- and three-day-per-week-half-day preschool, while not differing, had higher social competence ratings than subjects who attended day care. For cognitive ability, subjects who attended five- and three-day per-week-half-day preschool were not different, but had higher scores than subjects who attended day care.

Discussion

The finding that advantaged children who attended preschool were not different from advantaged children who did not attend preschool in social and cognitive competence by third grade supports previous longitudinal research on disadvantaged children. In other words, much of the reports on disadvantaged children indicates that initial differences in cognitive ability among children who attended preschool programs and controls had disappeared by third grade

(Lazar et. al., 1982). Based on long-term follow-up studies, however, the Consortium for Longitudinal Studies has reported that early educational experiences have made a positive difference in the social competence of many disadvantaged children (Lazar et. al., 1982).

The present findings are also consistent with the notion that early education does not appear to result in long-term IQ gains for advantaged children (Belsky, 1984; Etaugh, 1980). The findings, however, are inconsistent with previous research by Pierson et. al. (1984), Larsen et. al. (1983), and Larsen et. al. (1984) who found differences favoring advantaged children who had attended preschool. Although Pierson et. al. (1984) reported that by second grade preschool participants exhibited better social skills and engaged in desired school behaviors more frequently than controls, they did not address cognitive ability. In addition, Larsen and her colleagues have reported conflicting findings and have not yet examined for effects beyond the end of kindergarten.

The one recurring theme amidst all the inconclusive data on the effects of preschool on advantaged children is the lack of evidence that early experiences adversely affect both advantaged and disadvantaged children. This consistency can be of comfort to those responsible for the growth and development of young children.

The finding that children who attended half-day preschool were rated higher on social competence than those who attended day care is consistent with previous findings of Vliestra (1981). Hers is the only other study in which the effects of full-day and half-day preschool attendance on behavior have been examined. Social behavior is an important aspect of development in the total child. Unlike cognitive competence, social competence is a complex hypothetical construct with no universally accepted definition or assessment approach. Social competence encompasses cognitive and affective variables that are difficult to separate and measure (Anderson & Messick, 1974; O'Malley, 1977; Zigler & Trickett, 1978).

Evidence based on the present and previous findings indicate that there may be some risk in the domain of social development for children attending day care (Finkelstein, 1982). The risks are not necessarily evils of day care. These risks may be the result of failure to provide systematic opportunities to encourage the development of appropriate social behaviors and the result of long days away from home. Children who attend day care experience a longer period at school than children who attend half-day preschool. It may be that with the lengthening day, day care children are more susceptible to fatigue, peer aggressive acts, and caregiver mood and attitudinal changes than half-day preschool children. As a result, they may develop certain types of survival behaviors that would extend into the school years.

Both sets of findings from the present study must be interpreted with caution for two main reasons. First, because this was an ex post facto study, there is no way of knowing whether there were earlier differences among the groups and what their differences

were. The findings of Pierson et. al. (1984), Larsen et. al. (1983), and Larsen et. al. (1984) are based on follow-up studies by the end of second grade and kindergarten respectively. As for findings based on later comparisons, their juries are still out. Second, the existence of many intervening variables between preschool and third grade that may have influenced the findings. Some of these are memory of parents about preschool, parental and family affect on social and cognitive development, and general ontogenesis.

Implications for caregiver and teacher education in preschool are suggested by the present results. First, emphasis is needed on learning to develop comprehensive curricula approaches involving ecology of the classroom, staff development, and activities to help children successfully develop social skills and enhance cognitive ability. Second, caregivers can be trained to facilitate social competence within all aspects of their interactions with children. It is also important for day care teachers to understand,

from both a theoretical and applied perspective, the developmental interdependence between social and cognitive competence. Third, findings from this research strongly suggest an emphasis on the affective domain, not only for application in the classroom setting, but also for the caregivers and preschool teachers themselves.

Finally, underscored by the present results is the critical question of how specific types of preschool experiences influence development in later years. Researchers, educators, and early childhood workers must move beyond preschool attendance itself to type and quality of experience. This is particularly critical since day care and preschool attendance is an increasing reality in contemporary society.

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Table 1
Distribution of Preschool Attendance Data
(N = 226)

Category	Number of Subjects
Attended Preschool	186
Did Not Attend Preschool	40
Attended Full-Day Day Care	32
Attended Five-Day-Per-Week-Half-Day Preschool	63
Attended Three-Day-Per-Week-Half-Day Preschool	91
Attended Church-Run Centers	117
Attended Franchise Centers	26
Attended Privately-Owned Centers	40
Attended Private School Centers	40
Attended University-Based Centers	3

Table 2
Means and Standard Deviations for Social Competence,
IQ, Reading Achievement, and Math Achievement
(N = 186)

Group	<u>n</u>	Variable			
		Social Competence	IQ	Reading Achievement	Math Achievement
Day care	32				
<u>M</u>		104.00	108.34	68.23	73.00
<u>SD</u>		19.00	18.00	24.25	23.50
Five-Day- Half-Day	63				
<u>M</u>		109.27	114.30	75.00	78.00
<u>SD</u>		12.33	14.22	20.44	18.33
Three-Day- Half-Day	91				
<u>M</u>		111.00	116.29	76.00	75.24
<u>SD</u>		11.43	14.25	20.00	22.00
Total Sample					
<u>M</u>		109.13	114.23	74.11	77.00
<u>SD</u>		13.50	15.00	21.00	20.00

p < .05.